<u>REMARKS</u>

Reconsideration and allowance are respectfully requested in light of the above amendments and the following remarks.

Applicants acknowledge with appreciation the indication in the Office Action of allowable subject matter in claims 2-13, 17, and 18.

Claims 1-18 have been canceled in favor of new claims 19-31, which better define the subject matter Applicants regard as the invention. Support for the features recited in claims 19-31 is provided by the original claims. The new claims have been drafted to avoid the issue underlying the objection to claim 16. Independent claims 19-21, 23, 26-28, and 30 recite features of allowable claims 2-4 and 6-14. Therefore, allowance of claims 19-21, 23, 26-28, and 30 and all claims dependent therefrom is warranted.

Claims 1 and 14-16 were rejected, under 35 USC §102(e), as being anticipated by Sano et al. (US 6,381,251). The rejections of claims 1, 14, and 15 are obviated by the cancellation of these claims. Independent claim 31 recites features of original claim 16. To the extent the rejection of claim 16 is deemed applicable to new claim 31, Applicants respectfully traverse.

New claim 31 recites:

> *An OFDM communication method comprising:*

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> *adding symbols for synchronization pull-in to a
> valid symbol, said symbols for synchronization pull-in
> comprising a synchronization symbol and a phase
> reference symbol that is identical to the
> synchronization symbol;*
>
> > *inserting a correlation value suppression signal
> immediately after the symbols for synchronization
> pull-in;*
>
> > *delaying a reception signal by a symbol unit;*
>
> > *calculating a correlation value of the reception
> signal, as received, and the delayed reception signal;
> and*
>
> > *establishing symbol synchronization by carrying
> out a threshold determination of the calculated
> correlation value.*

Sano fails to disclose the features recited in claim 31 of:

(1) adding symbols for synchronization pull-in to a valid symbol,

the symbols for synchronization pull-in comprising a

synchronization symbol and a phase reference symbol that is

identical to the synchronization symbol; (2) inserting a

correlation value suppression signal immediately after the

symbols for synchronization pull-in; and (3) calculating a

correlation value of a reception signal, as received, and a

delayed version of the reception signal. Although features (1)

and (3) are similar to those recited in allowable claim 2, all

three of the above features will be distinguished from Sano's

disclosure in the discussion below.

Sano discloses in Figs. 10 and 15-17 a transmitter 200 that

constructs a data frame containing a first synchronization symbol

161, a second synchronization symbol 162, and a number of data

transmission symbols 163 (Sano col. 5, lines 13-28). As

illustrated in Fig. 17, first synchronization symbol 161 is a

null signal and second synchronization symbol 162 is a sweep

signal varying from a predetermined maximum frequency to a

minimum frequency (col. 5, lines 30-34). Therefore, as may be

determined by inspection of Fig. 17, Sano does not disclose

adding two identical synchronization pull-in symbols to a data

transmission symbol of a data frame, as required by claim 31.

Moreover, as may be determined by inspection of Figs. 16

and 17, Sano discloses a data frame comprising only a first

synchronization symbol 161, a second synchronization symbol 162,

and a number of data transmission symbols 163. Sano does not

disclose the claimed feature of inserting a correlation value

suppression signal immediately after the symbols for

synchronization pull-in. The Office Action proposes that Sano

discloses this feature in column 2, lines 53-59. However, the

cited portion of Sano states that a transmitter inserts a group

of predetermined synchronization symbols into a transmission

signal at a fixed period so as to synchronize a receiver with the

transmitter. The cited portion of Sano discloses nothing with

regard to a correlation value suppression signal.

If the Office Action is proposing, by inference, that the

data transmission symbol, which follows the first and second

synchronization symbols in Figs. 16 and 17, is a correlation

value suppression symbol, Applicants respectfully disagree.

Sano's data transmission symbol carries a piece of the

information to be communicated between the transmitter and

receiver. This information differs from the synchronization

symbols in that its content is unknown to the receiver prior to

its reception. Because this information is unknown to the

receiver, it necessarily has an entropy greater than zero and,

therefore, may have any of a plurality of values. Some of these

values may be highly correlated with the preceding

synchronization value and some may not. Because the information

has an entropy greater than zero, the receiver cannot predict

with certainty prior to receiving the information whether the

symbol carrying this information will be highly or lowly

correlated with one of the synchronization symbols. In short,

the information symbol following the synchronization symbols is

not necessarily lowly correlated with one or both of the

synchronization symbols.

By contrast to Sano's system, claim 31 recites a method

wherein a correlation value suppression signal is inserted

immediately after the symbols for synchronization pull-in. This

sequence of two identical synchronization symbols followed

immediately by a correlation value suppression signal necessarily

occurs. Because Sano's transmitter does not necessarily produce the data frame structure that is necessarily produced by the method of claim 31, the claimed method and that relating to the operation of Sano's transmitter cannot be identical.

Furthermore, claim 31 recites calculating a correlation value of a reception signal, as received, and a delayed version of the reception signal. By contrast to the claimed feature, Sano discloses performing a correlation between a reference signal provided in the receiver and a synchronization symbol within the received signal (col. 9, lines 3-6).

In accordance with the above discussion, Applicants submit that Sano does not anticipate the subject matter defined by claim 31. More specifically, Sano does not disclose the claimed features of: (1) adding two identical symbols for synchronization pull-in to a valid symbol; (2) inserting a correlation value suppression signal immediately after the symbols for synchronization pull-in; and (3) calculating a correlation value of a reception signal, as received, and a delayed version of the reception signal. Therefore, allowance of claim 31 is warranted.
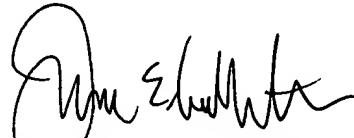
Each of independent claims 19-21, 23, 26-28, and 30 recites one or more of the above features distinguishing claim 31 from Sano, but with respect to an apparatus claim. Therefore,

allowance of claims 19-21, 23, 26-28, and 30 and all claims dependent therefrom is warranted for the above-discussed reasons.

In view of the above, it is submitted that this application is in condition for allowance and a notice to that effect is respectfully solicited.

If any issues remain which may best be resolved through a telephone communication, the Examiner is requested to telephone the undersigned at the local Washington, D.C. telephone number listed below.

Respectfully submitted,

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